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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/772,319	02/06/2004	Kishio Hidaka	A8319.0022/P022-A	6470
24998	7590	12/29/2004	EXAMINER	
DICKSTEIN SHAPIRO MORIN & OSHINSKY LLP			HOANG, QUOC DINH	
2101 L Street, NW			ART UNIT	
Washington, DC 20037			PAPER NUMBER	

2818

DATE MAILED: 12/29/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Alc

Office Action Summary	Application No.	Applicant(s)	
	10/772,319	HIDAKA ET AL.	
	Examiner	Art Unit	
	Quoc D Hoang	2818	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 01 October 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 12-19 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 12-19 is/are rejected.
- 7) ☒ Claim(s) 16 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 10/2004.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Response to Amendment

1. Amendment filed on 10/01/2004 has been entered and made of record as Paper No. 10/2004. In Amendment, applicants cancel claims 1-11. Claims 12-19 are newly added. Claims 12-19 are pending in the application.

Claim Objections

2. Claim 16 is objected to because of the following informalities: Nowhere in the specification or in any figures disclose the limitation "a chemical component of the glass film is an oxide comprising elements of group IVb or VII of the periodic table." Clearly in page 7, lines 25-28, the glass film 12 is a CoO, and Co element does not belong group IVb or VII of the periodic table . Appropriate correction is required.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

4. Claim 17 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. Nowhere in the specification or in any figures disclose the limitation "**the glass film contains CoO greater than or equal to 80% in mixture ratio**".

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. Claim 12 and 13 are rejected under 35 U.S.C. 102(b) as being anticipated by Niigaki et al (U.S. Pat No. 5,959,400) ("Niigaki").

Regarding claim 12; Niigaki teaches an electrode device comprising: at least one element, each element comprising: a plurality of emitters 11 (col. 5, lines 50-67 and Fig. 12); a grid electrode 14 which draws electrons from the emitters 11 (col. 6, lines 1-25 and Fig. 2); a converging electrode 15 which converges the electrons emitted from the emitters 11 (col. 6, lines 24-50 and Fig. 12); and an anode electrode 21 (co. 3, line 60, col. 6, lines 50-60 and Fig. 12).

Regarding claim 13; Niigaki teaches a spacer 1 between the converging electrode 15 and the anode electrode 21 (see Fig. 12).

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claims 14-16, 18 and 19, as best understood, are rejected under 35 U.S.C. 103(a) as being unpatentable over Niigaki et al (U.S. Pat No. 5,959,400) ("Niigaki") in view of Choi et al (U.S. Pat No. 6,504,292) ("Choi").

Niigaki does not expressly teach the plurality of emitters are carbon nanotubes coated with a metal.

However, Choi teaches the plurality of emitters 1 are carbon nanotubes coated with a metal 5 (see col. 5, lines 5-35 and Fig. 3c). At the time of the invention was made, it would have been obvious to a person of ordinary skill in the art to combine the carbon nanotubes emitter teaching of Choi with Niigaki's polycrystalline diamond emitter, because it would have reduced surface contamination of the emitter as taught by Choi, column 2, lines 20-67.

Regarding claim 15; Choi teaches wherein the carbon nanotubes are dispersively formed on a glass film 2 (col. 6, lines 1-10).

Regarding claim 16; Choi teaches wherein a chemical component of the glass film is an oxide (col. 6, lines 1-10).

Regarding claims 18 and 19; Choi teaches an electric field emission type display or projector light source including the electrode device (col. 3, lines 1-40).

Conclusion

9. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

Art Unit: 2818

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Quoc Hoang whose telephone number is (703) 306-5795. The examiner can normally be reached on Monday-Friday from 8.00 AM to 5.00 PM.

If attempt to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Nelms can be reached on (703) 308-4910. The fax phone numbers of the organization where this application or proceeding is assigned are (703) 872-9306 for regular communications and (703) 872-9306 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.


Quoc Hoang
Patent examiner/AU 2818


David Nelms
Supervisory Patent Examiner
Technology Center 2800